

Answers to direct variation review worksheet:

1. A. Because the y -intercept, b , is not 0.
2. D. The equation is $y = -\frac{5}{6}x + 5$ in slope-intercept form. Because the y -intercept is not 0, the equation is not a direct variation.
3. $k = 5$
4. $k = \frac{1}{2}$
5. $k = -\frac{2}{3}$
6. $y = 2x$, $y = 32$ when $x = 16$.
7. $y = 7x$, $x = 6$ when $y = 42$.
8. $v = 9g$, $v = 99$ when $g = 11$.
9. $a = \frac{7}{2}b$, $b = 6$ when $a = 21$.
10. $y = 6x$, $y = 6$ when $x = 1$.
- ~~11. No, because the y -intercept is not 0.~~
- ~~12. Yes, because the y -intercept is 0.~~

$$10) \frac{y}{x}$$

$$\frac{9}{3/2} = \frac{y}{1}$$

$$\left(\frac{2}{3}\right) \frac{3}{2} y = 9 \left(\frac{2}{3}\right)$$

$$y = 6$$

- ~~1. $y = \frac{2}{3}x$, $x = -18$ when $y = -12$.~~
- ~~2. a. Yes, because the $\frac{y}{x}$ ratios all equal 2. The direct variation equation is $y = 2x$.~~
~~b. No, because the $\frac{y}{x}$ ratios are not all the same for the (x, y) pairs.~~
- ~~3. a. $s = 5w$~~
~~b. 150 tablespoons should be added to a 30 gallon tank.~~
~~c. Dori's tank is 55 gallons.~~
- ~~4. a. $n = 4w$~~
~~b. There were 280 calories in the cheese.~~
~~c. Mickey should eat 112.5 grams of the cheese.~~

$$7) \quad \frac{21}{3} = \frac{42}{x}$$

$$\frac{126}{21} = \frac{21x}{21}$$

$$x = 6$$

13) a) $y = Kx$ or $K = \frac{y}{x}$
 $10 = K(2)$ $K = \frac{10}{2}$

b) $\frac{10}{2} = \frac{y}{4}$ $y = 20 \text{ seconds}$

14) a)

doz muffins
flour

$K = \frac{2}{3}$ $2 = 3K$

b) $\frac{2}{3} = \frac{6}{x}$ $2x = 18$
 $x = 9 \text{ cups}$